Ross Engineering
Civil/Structural Engineering & Surveying

909 Islington Street **603-433-7560**
Portsmouth, NH 03801 **alexross@comcast.net**

May 25, 2022
Portsmouth Planning Department
1 Junkins Ave
Portsmouth, NH 03801

11 Fletcher Street
CONDITIONAL USE PERMIT

RE: Lancen & Sophie LaChance
11 Fletcher St
Portsmouth, NH 03801
Tax Map 233, Lot 76-1

This project involves construction of a house on an existing vacant lot. The house, attached garage, porch, and deck will all be outside the 100' wetland buffer. A conditional use permit is required because the proposed stormwater drain outlet will be in the wetland buffer. The department of public works recommends that the drain outlet be located in the lower lot corner as shown. The drain outlet will provide a direct route to the wetland area and avoid a flowpath towards Lot 73 which is in a low-lying area.

Proposed site improvements include:

1. Pervious paver driveway to collect runoff from the driveway and the northern garage roof.

2. Infiltration trenches along the perimeter of the building collecting runoff from the roofs.

3. A stone area beneath the deck to collect runoff from the roofs, as well as stormwater from the pervious pavers and infiltration trenches. Water is stored in this area, before being slowly released to the outlet protection in the southwest through a 4" pipe. Wetland buffer plantings will be installed surrounding the outlet.

4. Sewer and water trenches are proposed to connect to existing lines on Sims Ave.

A drainage study has been prepared and after the improvements are installed the stormwater runoff rate will be lower than currently exists.

Sincerely,

Alex Ross, PE, LLS

Ross Engineering
Civil / Structural Engineering

909 Islington Street **603-433-7560**
Portsmouth, NH 03801 **alexross@comcast.net**

List of Abutters

Dated 5-25-2022
To: City of Portsmouth
1 Junkins Ave
Portsmouth, NH 03801

Applicant & Land Owner's Name:
Lancen & Sophie Lachance
281 Dennett St
Portsmouth, NH 03801

Location of Land:
11 Fletcher St
Portsmouth, NH 03801
Tax Map 233, Lot 76-1

Abutters:
Judith B. Pope Revocable Trust of 2011
66 Benson St
Portsmouth, NH 03801
Tax Map 233, Lot 73

Stephanie J. Long Revocable Trust of 2008
80 Sims Ave
Portsmouth, NH 03801
Tax Map 233, Lot 74

Eric R. Hutchins Revocable Trust of 2015
74 Sims Ave
Portsmouth, NH 03801
Tax Map 233, Lot 75

Mark G. Broderick & Emily Spencer
70 Sims Ave
Portsmouth, NH 03801
Tax Map 233, Lot 76

Riverbrook at Portsmouth Condominium
Multiple Owners
Portsmouth, NH 03801
Tax Map 232-121

Civil Engineer & Surveyor
Alex Ross
Ross Engineering
Certified Professional Engineer
Licensed Land Surveyor
909 Islington Street
Portsmouth, NH 03801

Ross Engineering
Civil / Structural Engineering
909 Islington Street
Portsmouth, NH 03801
603-433-7560
alexross@comcast.net

1. Aerial of neighborhood, before lot clearing

2. Aerial of Site, before lot clearing

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3. Looking upslope North East

4. View towards south east corner

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5. Looking south west towards woodland wetland buffer.

Ross Engineering, LLC

909 Islington Street
Portsmouth, NH 03801

603-433-7560
alexross@comcast.net

May 24, 2022

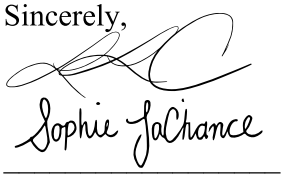
Planning Department
City of Portsmouth
Portsmouth, NH 03801

RE: 11 Fletcher St
Tax Map 233, Lot 76-1
Portsmouth, NH 03801

Owner: Lancen & Sophie LaChance
281 Dennett St
Portsmouth, NH 03801

Please be advised that Alex Ross of Ross Engineering is authorized to be our agent for the above application process. Should you have any questions, please contact us.

Sincerely,



Lancen & Sophie LaChance
281 Dennett St
Portsmouth, NH 03801

FLETCHER STREET

SEE NOTE 2

N 68°52'39" E
127.30'

S 21°13'42" E
50.00'

S 20°14'43" E
60.58'

S 17°44'37" E
39.50'

N 68°52'39" E
130.74'

100' BUFFER SETBACK

30' SETBACK

10' SETBACK

50' LIMITED CUT AREA

25' VEGETATIVE BUFFER STRIP

WETLAND DELINEATION

TP 1

TP 2

DH FOUND

IRON PIN 3" ABOVE GRADE (HELD)

LANCEN & SOPHIE LACHANCE
TAX MAP 233, LOT 76-1
RCRD 6364-2154
12,850 SQFT, 0.295 ACRES

MARK G. & EMILY BRODERICK
TAX MAP 233, LOT 76
RCRD 5710-76

N/F ERIC R. HUTCHINS TRUSTEE
ERIC R. HUTCHINS REV. TRUST 2015
TAX MAP 233, LOT 75
RCRD 5682-653

N/F STEPHANIE J. LONG TRUSTEE
STEPHANIE J. LONG REV. TRUST 2015
TAX MAP 233, LOT 75
RCRD 5682-653

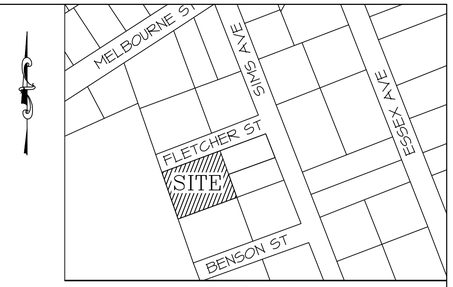
N/F RIVERBROOK AT
PORTSMOUTH CONDOMINIUM
TAX MAP 232, LOT 121-12
MULTIPLE OWNERS

N/F JUDITH B. POPE TRUSTEE
JUDITH B. POPE REV. TRUST 2011
TAX MAP 233, LOT 73
RCRD 5546-1239

GRAPHIC SCALE
10 0 5 10 20 40
(IN FEET)
SCALE: 1" = 10'

LEGEND

- 100 — EXISTING CONTOUR
- 100 — PROPOSED CONTOUR
- 100x00 — SPOT ELEVATION
- SEWER MANHOLE
- MONUMENT FOUND
- UTILITY POLE
- VERTICAL GRANITE CURB
- CATCH BASIN
- LEDGE
- STONE WALL



LOCUS PLAN
N.T.S.

NOTES

1) OWNER OF RECORD:
LANCEN & SOPHIE LACHANCE
TAX MAP 233, LOT 76-1
70 SIMS AVENUE
PORTSMOUTH, NH 03801
RCRD: 6364-2154
LOT 76-1 AREA: 12,850 SF, 0.29 Ac

2) BASIS OF BEARING HELD FROM PLAN REFERENCE #1.

3) PARCEL IS IN SINGLE RESIDENCE B DISTRICT:

MINIMUM LOT AREA	15,000 SF
MIN. LOT AREA PER DWELLING UNIT	15,000 SF
MINIMUM FRONTAGE	100 FT
MINIMUM DEPTH	100 FT
SETBACKS:	
FRONT	30 FT
SIDE	10 FT
REAR	30 FT
MAXIMUM BUILDING HEIGHT:	
SLOPED ROOF	35 FT
MAXIMUM BUILDING COVERAGE	20%
MINIMUM OPEN SPACE	40%

4) THE PARCEL IS NOT WITHIN A FEMA FLOOD ZONE, AS PER FLOOD INSURANCE RATE MAPS #33015C0259F & #33015C0270F, PANELS 259 & 270 OF 681, DATED JANUARY 29, 2021.

REFERENCE PLANS

1) "STANDARD BOUNDARY SURVEY, TAX MAP 223 LOT 73 FOR MICHAEL TRAVIS, 66 BENSON STREET CITY OF PORTSMOUTH" BY AMBIT ENGINEERING, INC. DATED NOVEMBER 2006.
2) "CONDOMINIUM SITE PLAN FOR RIVERBROOK AT PORTSMOUTH, N.H." BY RICHARD P. MILLETTE AND ASSOCIATES. DATED AUGUST 25, 1987.
2) "DANIELS PARK PORTSMOUTH, NH" DATED JUNE 1918 BY C.A. THAYER ENGR. RCRD 0241

ISS.	DATE	DESCRIPTION OF ISSUE
2	5/25/2022	FOR PB
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SCALE 1" = 10'
CHECKED A.ROSS
DRAWN D.D.D.
CHECKED

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(603) 433-7560

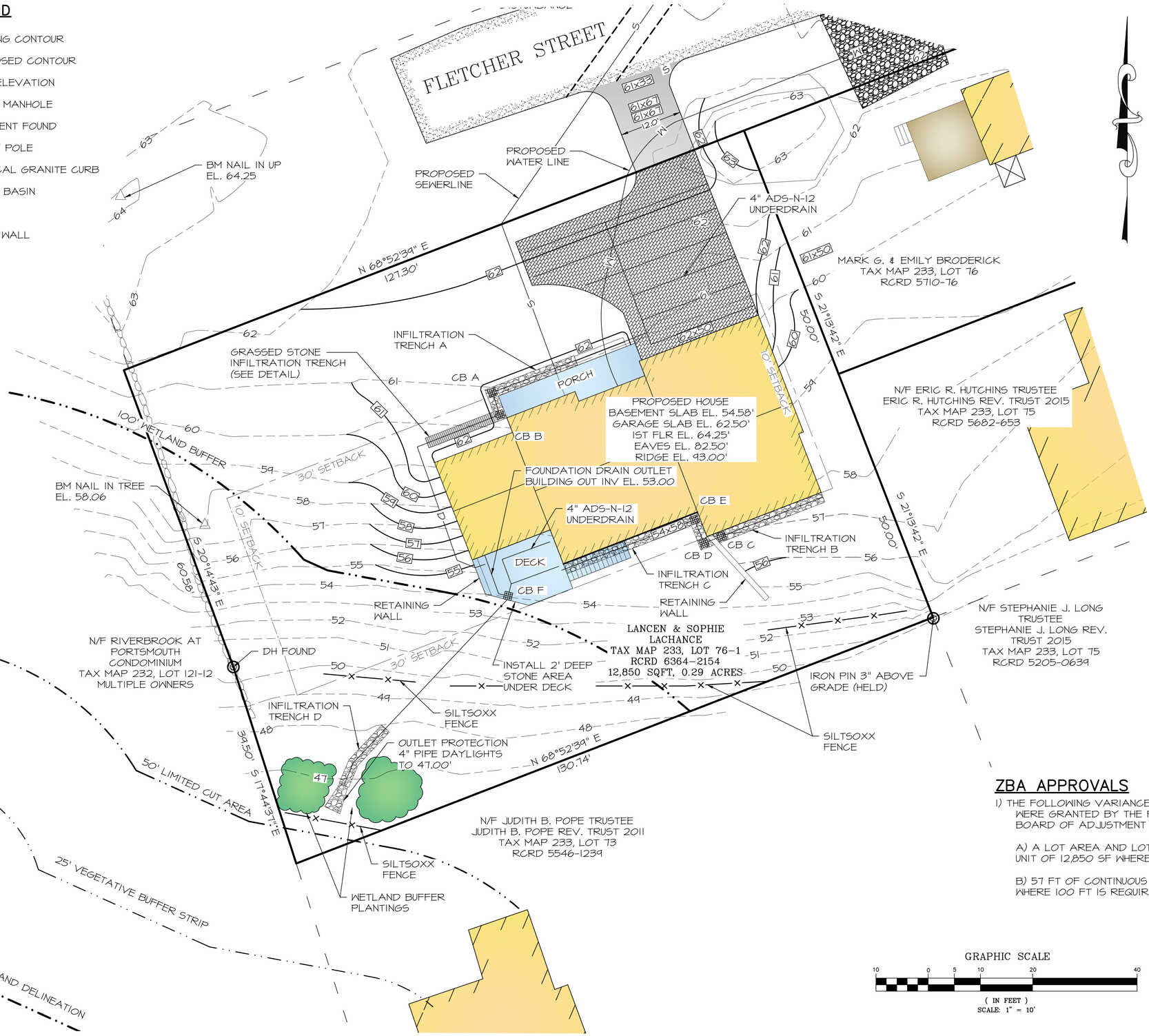
CLIENT
LANCEN & SOPHIE LACHANCE
281 DENNETT STREET
PORTSMOUTH, NH 03801

TITLE
EXISTING CONDITIONS PLAN
11 FLETCHER ST
PORTSMOUTH, NH 03801
TAX MAP 233, LOT 76-1

JOB NUMBER	DWG. NO.	ISSUE
21-176	1 OF 8	2

LEGEND

- 100 — EXISTING CONTOUR
- 100 — PROPOSED CONTOUR
- 100x00 — SPOT ELEVATION
- (S) — SEWER MANHOLE
- MONUMENT FOUND
- UTILITY POLE
- VERTICAL GRANITE CURB
- CATCH BASIN
- LEDGE
- STONE WALL



NOTES

1) OWNER OF RECORD:
LANCEN & SOPHIE LACHANCE
TAX MAP 233, LOT 76-1
70 SIMS AVENUE
PORTSMOUTH, NH 03801
RCRD 6364-2154
LOT 76-1 AREA: 12,850 SF, 0.29 AC

2) PARCEL IS IN SINGLE RESIDENCE B DISTRICT:

MINIMUM LOT AREA	15,000 SF
MIN. LOT AREA PER DWELLING UNIT	15,000 SF
MINIMUM FRONTAGE	100 FT
MINIMUM DEPTH	100 FT
SETBACKS:	
FRONT	30 FT
SIDE	10 FT
REAR	30 FT
MAXIMUM BUILDING HEIGHT:	
SLOPED ROOF	35 FT
MAXIMUM BUILDING COVERAGE	20%
MINIMUM OPEN SPACE	40%

3) COVERAGES
BUILDING COVERAGE
EXISTING COVERAGE = 0 SF

PROPOSED COVERAGE	
HOUSE	1987 SF
PORCH & DECK	327 SF
PROPOSED STRUCTURE	2314 SF = 18.0%

LOT COVERAGE
EXISTING COVERAGE = 0 SF

PROPOSED COVERAGE	
HOUSE	1987 SF
PORCH, DECK & STAIRS	371 SF
ASPHALT	0 SF
TOTAL LOT COVERAGE	2358 SF
PROPOSED OPEN SPACE	10,492 SF
PROPOSED OPEN SPACE	81.6%

4) GRADE PLANE IS DEFINED AS THE REFERENCE PLANE OF THE AVERAGE GROUND LEVELS ADJOINING THE BUILDING AT THE EXTERIOR WALLS, OR THE AVERAGE GROUND LEVEL AT A POINT 6' AWAY FROM THE BUILDING WHEN THE GROUND LEVEL SLOPES AWAY FROM THE EXTERIOR WALLS. THE GRADE PLANE WAS DETERMINED TO BE 57.75'.

5) BUILDING HEIGHT IS DEFINED AS THE VERTICAL MEASUREMENT BETWEEN TWO REFERENCE POINTS. THE FIRST BEING DEFINED AS THE GRADE PLANE ABOVE. THE SECOND BEING THE MIDWAY POINT BETWEEN THE EAVES AND THE RIDGE ON A PITCHED ROOF.

GRADE PLANE EL. = 57.75'
EAVES EL. = 82.50'
RIDGE EL. = 93.00'
ROOF MIDWAY EL. = 82.50 + 93.00 / 2 = 87.75'

BUILDING HEIGHT = 87.75' - 57.75' = 30.00' < 35'

ZBA APPROVALS

1) THE FOLLOWING VARIANCES FROM SECTION 10.521 WERE GRANTED BY THE PORTSMOUTH ZONING BOARD OF ADJUSTMENT ON APRIL 21, 2020.

A) A LOT AREA AND LOT AREA PER DWELLING UNIT OF 12,850 SF WHERE 15,000 SF IS REQUIRED.

B) 57 FT OF CONTINUOUS STREET FRONTAGE WHERE 100 FT IS REQUIRED.

GRAPHIC SCALE
10 0 5 10 20 40
(IN FEET)
SCALE: 1" = 10'

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(603) 433-7560

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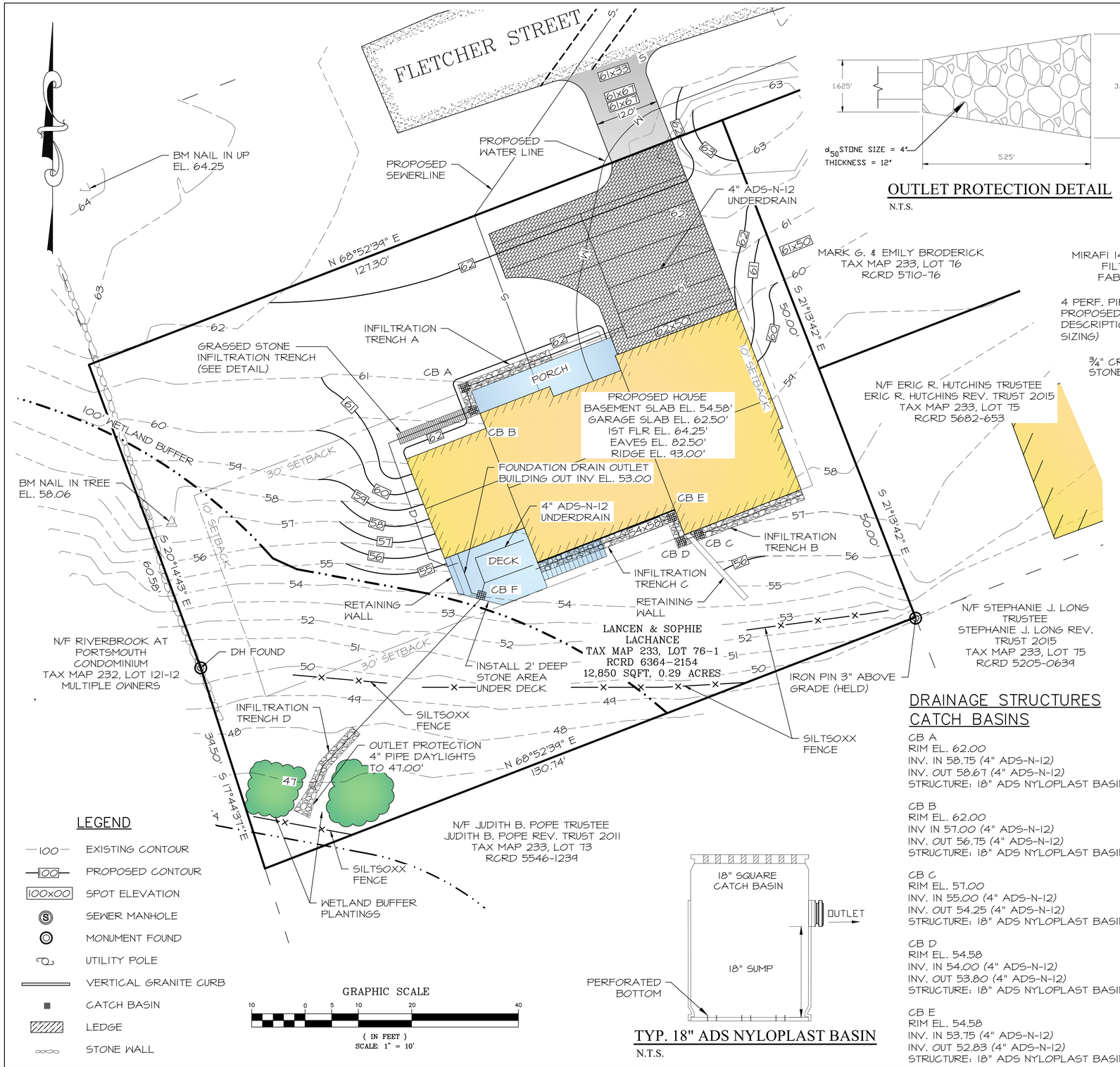
LANCEN & SOPHIE LACHANCE
281 DENNETT STREET
PORTSMOUTH, NH 03801

TITLE
SITE PLAN
11 FLETCHER ST
PORTSMOUTH, NH 03801
TAX MAP 233, LOT 76-1

JOB NUMBER	DWG. NO.	ISSUE
21-176	2 OF 8	2



LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- SPOT ELEVATION
- SEWER MANHOLE
- MONUMENT FOUND
- UTILITY POLE
- VERTICAL GRANITE CURB
- CATCH BASIN
- LEDGE
- STONE WALL

GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)
SCALE: 1" = 10'

OUTLET PROTECTION DETAIL

N.T.S.

TYP. 18" ADS NYLOPLAST BASIN

N.T.S.

DRAINAGE STRUCTURES
CATCH BASINS

CB A
RIM EL. 62.00
INV. IN 58.75 (4" ADS-N-12)
INV. OUT 58.67 (4" ADS-N-12)
STRUCTURE: 18" ADS NYLOPLAST BASIN

CB B
RIM EL. 62.00
INV IN 57.00 (4" ADS-N-12)
INV. OUT 56.75 (4" ADS-N-12)
STRUCTURE: 18" ADS NYLOPLAST BASIN

CB C
RIM EL. 57.00
INV. IN 55.00 (4" ADS-N-12)
INV. OUT 54.25 (4" ADS-N-12)
STRUCTURE: 18" ADS NYLOPLAST BASIN

CB D
RIM EL. 54.58
INV. IN 54.00 (4" ADS-N-12)
INV. OUT 53.80 (4" ADS-N-12)
STRUCTURE: 18" ADS NYLOPLAST BASIN

CB E
RIM EL. 54.58
INV. IN 53.75 (4" ADS-N-12)
INV. OUT 52.83 (4" ADS-N-12)
STRUCTURE: 18" ADS NYLOPLAST BASIN

CB F
RIM EL. 54.00
INV. IN 52.75 (4" ADS-N-12 FND DRAIN)
INV. IN 52.55 (4" ADS-N-12 UNDERDRAIN)
INV. OUT 52.50 (4" ADS-N-12)
STRUCTURE: 18" ADS NYLOPLAST BASIN

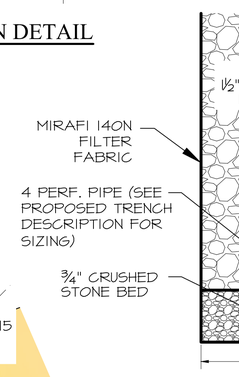
NOTES

1) THE FOLLOWING STORMWATER MANAGEMENT IMPROVEMENTS ARE PROPOSED

A) PERVIOUS PAVERS DRIVEWAY COLLECTING WATER FROM THE ROOF AND ASPHALT DRIVEWAY.

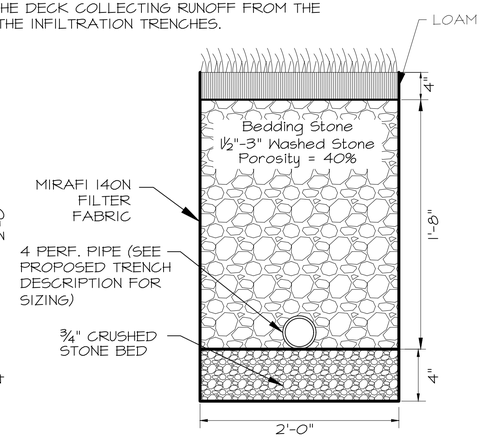
B) INFILTRATION TRENCHES ALONG THE PERIMETER OF THE BUILDING COLLECTING WATER FROM THE ROOFS.

C) STONE AREA BENEATH THE DECK COLLECTING RUNOFF FROM THE ROOF AND WATER FROM THE INFILTRATION TRENCHES.



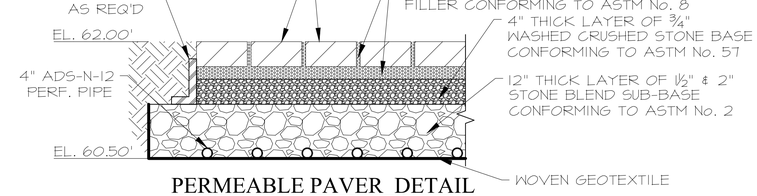
STONE TRENCH DETAIL

N.T.S.



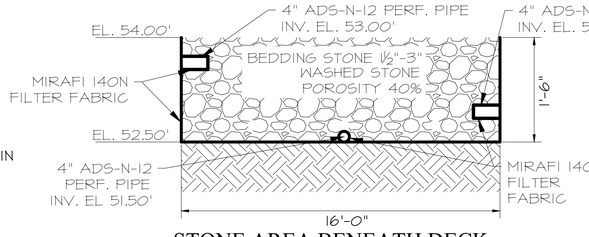
GRASSED STONE TRENCH DETAIL

N.T.S.



PERMEABLE PAVER DETAIL

N.T.S.



STONE AREA BENEATH DECK

N.T.S.

STONE TRENCH	DEPTH	WIDTH	INV. TRENCH	OUTLET INV.
A	2.00'	2.00'	60.00'	53.00' (4" ADS-N-12)
B	2.00'	2.00'	55.00'	55.00' (4" ADS-N-12)
C	2.00'	2.00'	52.58'	52.58' (4" ADS-N-12)
D	2.00'	2.00'	47.00'	47.00' (4" ADS-N-12)

PROPOSED TRENCH DESCRIPTION

N.T.S.

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SCALE 1" = 10'
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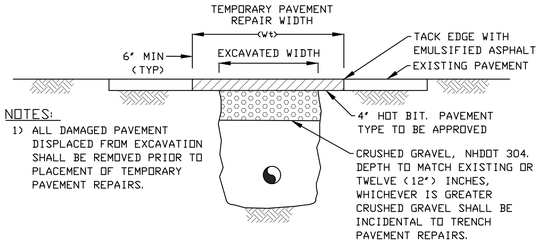
Portsmouth, NH 03801
(603) 433-7560

CLIENT
LANCEN & SOPHIE LACHANCE
281 DENNETT STREET
PORTSMOUTH, NH 03801

TITLE
STORMWATER MANAGEMENT

11 FLETCHER ST
PORTSMOUTH, NH 03801
TAX MAP 233, LOT 76-1

JOB NUMBER	DWG. NO.	ISSUE
21-176	3 OF 8	2

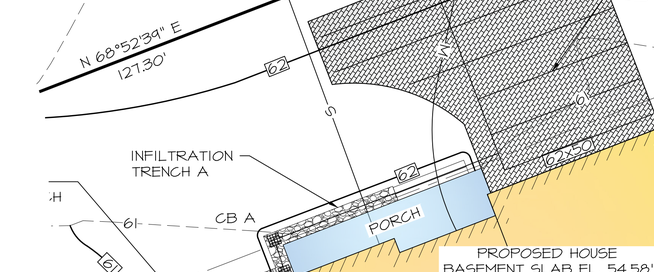


NOTES:

1) ALL DAMAGED PAVEMENT DISPLACED FROM EXCAVATION SHALL BE REMOVED PRIOR TO PLACEMENT OF TEMPORARY PAVEMENT REPAIRS.

TEMPORARY TRENCH PAVEMENT REPAIR

Scale : N.T.S.



NOTES:

1) ALL PAVEMENT REMOVAL SHALL BE PRECEDED BY MACHINE CUTTING.

2) ALL TEMPORARY, DAMAGED OR DEFECTIVE PAVEMENT SHALL BE REMOVED PRIOR TO PLACEMENT TRENCH REPAIRS,

3) DIAMOND PATCHES, SHALL BE REQUIRED FOR ALL TRENCHES CROSSING ROADWAY. DIAMOND PATCHES SHALL MEET NHDOT REQUIREMENTS.

PERMANENT TRENCH PAVEMENT REPAIR

PAVEMENT REPAIR NOTE:

THE DIMENSIONS SHOWN SHALL BE CONSIDERED MINIMUM PAVEMENT PAYMENT WIDTHS FOR 0-10' DEEP CONSTRUCTION. Wt AND Wp SHALL BE INCREASED BY 4'-0" FOR TRENCHES 10' TO 15' AND BY 8'-0" FOR TRENCHES 15' TO 20' IN DEPTH.

MINIMUM TRENCH PAVEMENT WIDTHS

PIPE I.D.	Wt (INCHES).	Wp (INCHES)
1-21 INCHES	72	108
24-30 INCHES	84	120
> 30 INCHES	96	132

GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)

SCALE: 1" = 10'

EXISTING STRUCTURES

SEWER MANHOLE

SMH #1
RIM EL. 54.51
INV. OUT 50.43 (6" PVC)
INV IN (PROPOSED) 53.01 (6" PVC)

UTILITIES:

CONTACT LIST:

WATER: PORTSMOUTH DPW: 603-427-1530
SEWER: PORTSMOUTH DPW: 603-427-1530

PROPOSED UTILITIES:

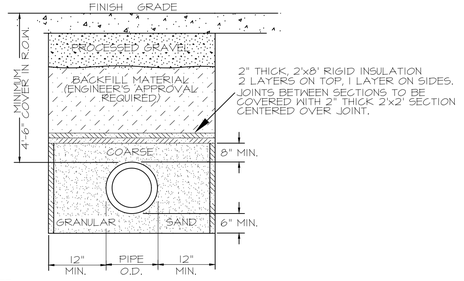
1. WATER:
   DOMESTIC: A NEW 1" LINE WILL BE INSTALLED TO THE BUILDING FROM THE EXISTING 6" DUCTILE IRON LINE ON SIMS AVE.

2. SEWER:
   A NEW PVC SEWER LATERAL SHALL BE CONNECTED TO THE EXISTING SEWER MANHOLE (SMH #1) IN SIMS AVE. INVERT ELEVATION AT BUILDING SHALL BE 56.1'. SEE CROSS SECTION.

   THE SEWER CONNECTION SHALL BE WITNESSED AND APPROVED BY THE PORTSMOUTH WATER DIVISION AND SOLID COUPLINGS WILL BE USED TO CUT IN THE SERVICE TO THE MAIN.

LEGEND

- 100 — EXISTING CONTOUR
- 100 — PROPOSED CONTOUR
- 100x00 — SPOT ELEVATION
- S — SEWER MANHOLE
- MONUMENT FOUND
- UTILITY POLE
- VERTICAL GRANITE CURB
- CATCH BASIN
- LEDGE
- STONE WALL
- TEST PIT
- INV. EL 52.97 — CITY TRACE ELEVATION OF UTILITY



NOTE:

1. SEE SITE PLAN FOR PIPE SIZES AND SERVICES.
2. CONTRACTOR TO REVIEW ALL UTILITIES WITH PORTSMOUTH DPW.
3. JOINTS BETWEEN SECTIONS OF INSULATION TO BE COVERED WITH 2'X2'X2" PIECE OF INSULATION CENTERED OVER JOINT.

TRENCH SECTION

N.T.S.

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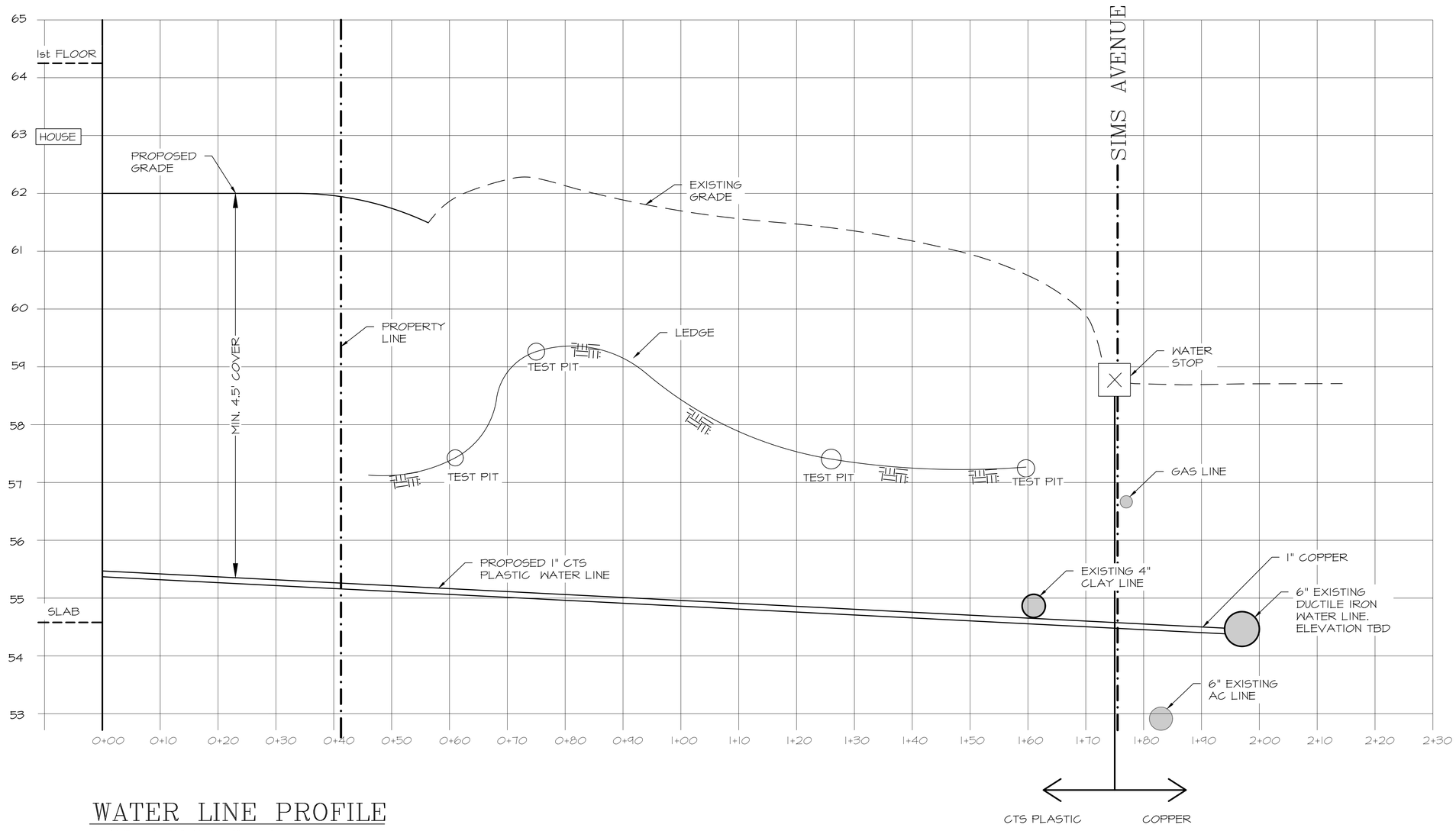
281 DENNETT STREET
PORTSMOUTH, NH 03801

TITLE

UTILITY PLAN

11 FLETCHER ST
PORTSMOUTH, NH 03801
TAX MAP 233, LOT 76-1

JOB NUMBER	DWG. NO.	ISSUE
21-176	4 OF 8	2



WATER LINE PROFILE

SCALE: HORIZONTAL: 1" = 10'
VERTICAL: 1" = 1'

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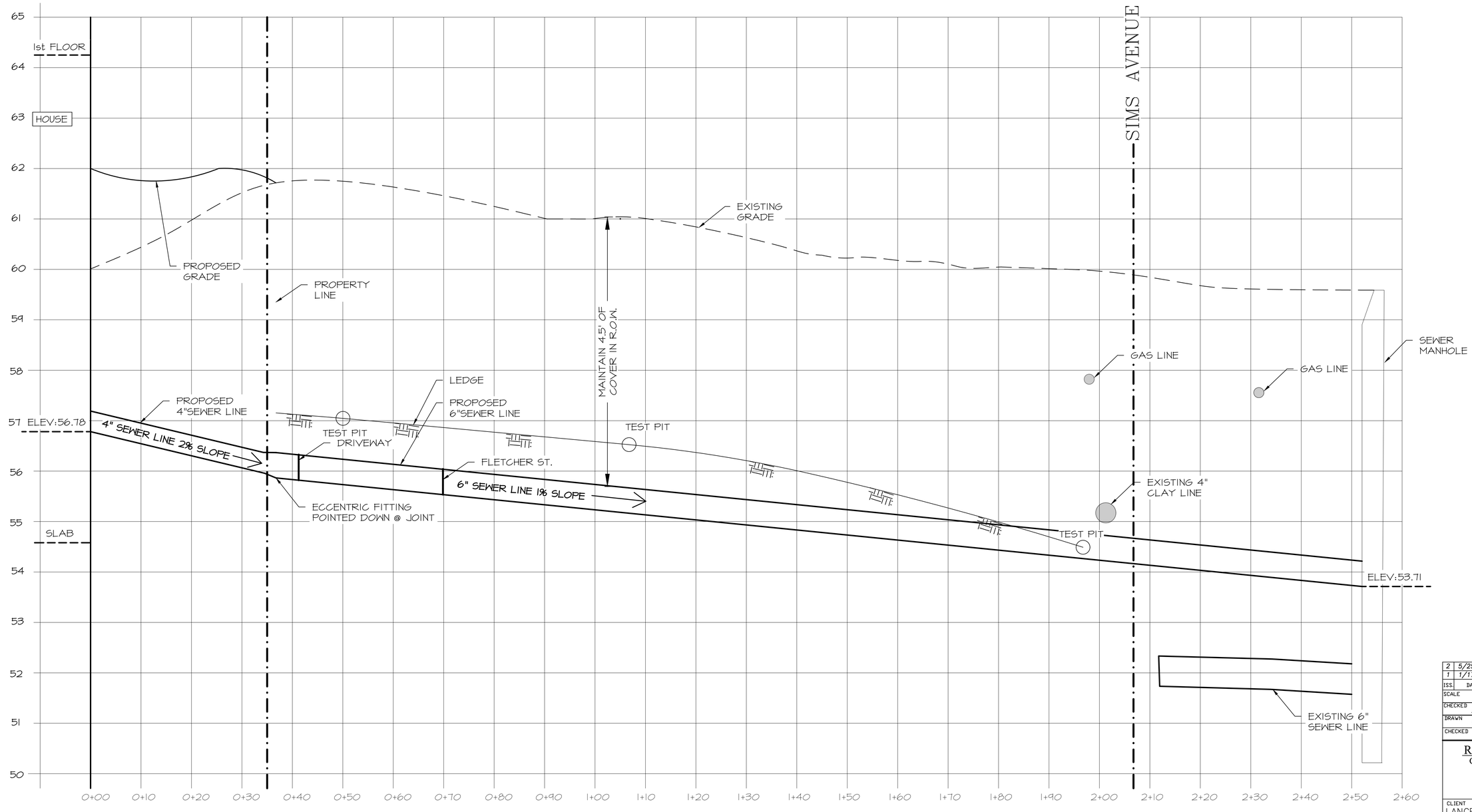
TITLE
WATER LINE PROFILE
11 FLETCHER ST
PORTSMOUTH, NH 03801
TAX MAP 233, LOT 76-1

JOB NUMBER	DWG. NO.	ISSUE
21-176	5 OF 8	2



6" SEWER LINE RUNS 215' LONG AT 1%
(55.87' - 53.71' = 2.17') 2.16' / 215' = 0.01
4" SEWER LINE RUNS 37' LONG AT 2%
(56.78' - 55.87' = 0.91') 0.91' / 37' = 0.02

SEWER LINE PROFILE

SCALE: HORIZONTAL: 1" = 10'
VERTICAL: 1" = 1'

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LANCEN & SOPHIE LACHANCE
281 DENNETT STREET
PORTSMOUTH, NH 03801

TITLE
SEWER LINE PROFILE
11 FLETCHER ST
PORTSMOUTH, NH 03801
TAX MAP 233, LOT 76-1

JOB NUMBER	DWG. NO.	ISSUE
21-176	6 OF 8	2

SEWER LINES

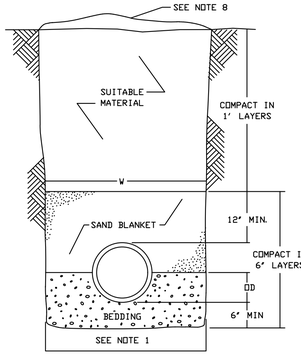
1) MINIMUM SIZE PIPE FOR HOUSE SERVICE SHALL BE FOUR INCHES.
2) PIPE AND JOINT MATERIALS:
   A. PLASTIC SEWER PIPE
      1. PIPE AND FITTINGS SHALL CONFORM TO THE FOLLOWING ASTM STANDARDS:

ASTM STANDARDS	GENERIC PIPE MATERIAL	SIZES APPROVED
D3034	*PVC (SOLID WALL)	8" THROUGH 15" (SDR 35)
F679	PVC (SOLID WALL)	18" THROUGH 27" (T-1 & T-2)
F789	PVC (SOLID WALL)	4" THROUGH 18" (T-1 TO T-3)
F794	PVC (RIBBED WALL)	8" THROUGH 36"
D2680	*ABS (COMPOSITES WALL)	8" THROUGH 15"

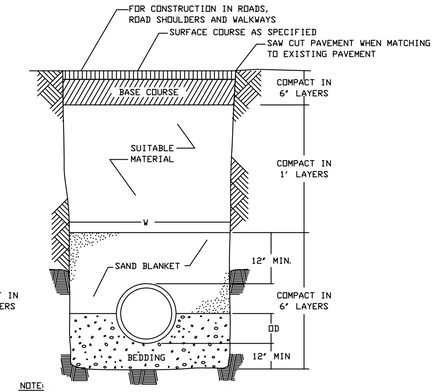
      *PVC: POLY VINYL CHLORIDE
      *ABS: ACRYLONITRILE-BUTADIENE-STYRENE

      2. -JOINTS SEALS FOR PVC PIPE SHALL BE OIL RESISTANT COMPRESSION RINGS OF ELASTOMERIC MATERIAL CONFORMING TO ASTM D-3212 AND SHALL BE PUSH-ON, BELL AND SPIGOT TYPE.
      -PLASTIC SEWER PIPE SHALL HAVE A PIPE STIFFNESS RATING OF AT LEAST 46 POUNDS PER SQUARE INCH AT 5% PIPE DIAMETER DEFLECTION, AS MEASURED IN ACCORDANCE WITH ASTM D2412 DURING MANUFACTURE.
      -PVC PIPE USED FOR FORCE MAINS SHALL CONFORM TO ASTM D2241 OR ATM D1784.
      -FORCE MAINS SHALL BE DESIGNED TO WITHSTAND HYDROSTATIC PRESSURES OF AT LEAST 2 1/2 TIMES THE DESIGN TOTAL DYNAMIC HEAD.

   B. DUCTILE-IRON PIPE, FITTINGS AND JOINTS.
      1. DUCTILE IRON PIPE AND FITTINGS SHALL CONFORM TO THE FOLLOWING STANDARDS:
         -AWWA C151 FOR DUCTILE IRON PIPE, CENTRIFUGALLY CAST IN METAL OR SAND LINED MOLDS, FOR WATER OR OTHER LIQUIDS.
         -AWWA C150 FOR THICKNESS DESIGN OF DUCTILE IRON PIPE AND WITH ASTM A 536 DUCTILE IRON CASTINGS.
         -JOINTS SHALL BE MECHANICAL TYPE, PUSH-ON TYPE, OR BALL-AND-SOCKET TYPE.
3) DAMAGED PIPE SHALL BE REJECTED AND REMOVED FROM THE JOB SITE.
4) JOINTS SHALL BE DEPENDENT UPON A NEOPRENE OR ELASTOMERIC GASKET FOR WATER-TIGHTNESS. ALL JOINTS SHALL BE PROPERLY MATCHED WITH THE PIPE MATERIALS USED. WHERE DIFFERING MATERIALS ARE TO BE CONNECTED, AS AT THE STREET SEWER WYE OR AT THE FOUNDATION WALL, APPROPRIATE MANUFACTURED ADAPTERS SHALL BE USED.
5) TEES AND WYES: WHERE A TEE OR WYE IS NOT AVAILABLE IN THE EXISTING STREET SEWER, AN APPROPRIATE CONNECTION SHALL BE MADE, FOLLOWING MANUFACTURERS' INSTRUCTIONS USING A BOLTED, CLAMPED OR EPOXY-CEMENTED SADDLE TAPPED INTO A SMOOTHLY DRILLED OR SAWN OPENING IN THE SEWER. THE PRACTICE OF BREAKING AN OPENING WITH A SLEDGE HAMMER, STUFFING CLOTH OR OTHER SUCH MATERIAL AROUND THE JOINT, OR APPLYING MORTAR TO HOLD THE CONNECTION, AND ANY OTHER SIMILAR CRUDE PRACTICES OR INEPT OR HASTY IMPROVISATIONS WILL NOT BE PREMITTED. THE CONNECTION SHALL BE CONCRETE ENCASED AS SHOWN IN THE DETAIL UP TO AND INCLUDING 15" DIAMETER. AS SPECIFIED IN NOTE 10. BEDDING AND RE-FILL FOR DEPTH OF 12 INCHES ABOVE THE TOP OF THE PIPE SHALL BE CAREFULLY AND THOROUGHLY TAMPED BY HAND OR WITH APPROPRIATE MECHANICAL DEVICES.
6) HOUSE SEWER INSTALLATION: THE PIPE SHALL BE HANDLED, PLACED AND JOINTED IN ACCORDANCE WITH INSTALLATION GUIDES OF THE APPROPRIATE MANUFACTURER. IT SHALL BE CAREFULLY BEDDED ON A 4 INCH LAYER OF CRUSHED STONE AND/OR GRAVEL. THE PIPE SHALL BE LAID AT A CONTINUOUS AND CONSTANT GRADE FROM THE STREET SEWER CONNECTION TO THE FOUNDATION AT A GRADE OF NOT LESS THAN 1/4 INCH PER FOOT. PIPE JOINTS MUST BE MADE UNDER DRY CONDITIONS. IF WATER IS PRESENT, ALL NECESSARY STEPS SHALL BE TAKEN TO DEWATER THE TRENCH.
7) -ALL NEW SEWERS, MANHOLES, AND FORCE MAINS SHALL BE TESTED FOR WATER TIGHTNESS BY THE USE OF EITHER WATER OR LOW-PRESSURE AIR TESTS.
   -LOW PRESSURE AIR TESTING SHALL BE IN CONFORMANCE WITH ASTM C828.
   -THE RATE OF INFILTRATION OR EXFILTRACTION SHALL BE NOT GREATER THAN 100 GALLONS PER DAY PER INCH OF PIPE DIAMETER PER MILE OF PIPE FOR SIZES TO 48", AND NOT GREATER THAN 200 GALLONS PER DAY PER INCH OF PIPE DIAMETER PER MILE FOR SIZES OVER 48".
   -FORCE MAINS SHALL BE TESTED IN ACCORDANCE WITH SECTION 4 OF AWWA C600 "INSTALLATION OF CAST IRON WATER MAINS", AT A PRESSURE EQUAL TO 150% OF THE DESIGN OPERATING TOTAL DYNAMIC HEAD.
   -MANHOLES SHALL BE TESTED FOR LEAKAGE USING EITHER A WATER EXILTRATION TEST OR A VACUUM TEST.
   -THE MANHOLE VACUUM TEST SHALL CONFORM TO THE FOLLOWING:
      *NOT LESS THAN 2 MINUTES FOR MANHOLES LESS THAN 10 FT. IN DEPTH.
      *NOT LESS THAN 2 1/2 MINUTES FOR MANHOLES 10-15 FT. DEEP.
      *NOT LESS THAN 3 MINUTES FOR MANHOLES MORE THAN 15 FT. DEEP.
   -LEAKAGE OBSERVED IN ANY ONE OF THE ABOVE ALTERNATE TESTS SHALL BE CAUSE FOR NON-ACCEPTANCE AND THE PIPE SHALL BE DUG-UP IF NECESSARY AND RE-LAID SO AS TO ASSURE WATER TIGHTNESS.
   -A WATERTIGHT HATCH IS REQUIRED TO PREVENT STORM SURGE INTRUSION.
8) ILLEGAL CONNECTIONS: NOTHING BUT SANITARY WASTE FLOW FROM HOUSE TOILETS, SINKS, LAUNDRY ETC. SHALL BE PREMITTED. ROOF LEADERS, FOOTING DRAINS, SUMP PUMPS OR OTHER SIMILAR CONNECTIONS CARRING RAIN WATER, DRAINAGE OR GROUND WATER SHALL NOT BE PERMITTED.
9) HOUSE WATER SERVICE SHALL NOT BE LAID IN SAME TRENCH AS SEWER SERVICE.
10) LOCATION: THE LOCATION OF THE TEE OR WYE SHALL BE RECORDED AND FILED IN THE MUNICIPAL RECORDS. IN ADDITION, A FERROUS METAL ROD OR PIPE SHALL BE PLACED OVER THE TEE OR WYE AS DESCRIBED IN THE TYPICAL "CHIMNEY" DETAIL, TO AID IN LOCATING THE BURIED PIPE WITH A DIP NEEDLE OR PIPEFINDER.
11) CONCRETE: CONCRETE SHALL CONFORM TO THE REQUIREMENTS FOR CLASS A (3000 PSI) CONCRETE OF THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION STANDARDS SPECIFICATIONS AS FOLLOWS:
    CEMENT: 6.0 BAGS PER CUBIC YARD
    WATER: 5.75 GALLONS PER BAG CEMENT
    MAXIMUM SIZE OF AGGREGATE: 1 INCH
12) CHIMNEYS: IF VERTICAL DROP INTO SEWER IS GREATER THAN 4 FEET, A CHIMNEY SHALL BE CONSTRUCTED FOR THE HOUSE CONNECTION. CHIMNEY INSTALLATION AS RECOMMENDED BY THE PIPE MANUFACTURER MAY BE USED IF APPROVED BY THE ENGINEER.

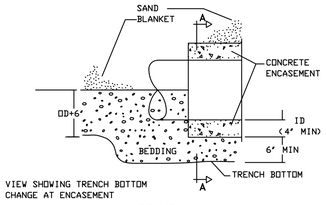


EARTH CONSTRUCTION
NOT TO SCALE



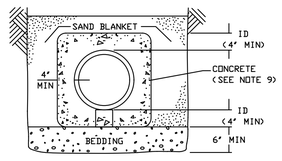
NOTE:
MIN. BEDDING DEPTH AND MAX. PAYMENT DEPTH FOR LEDGE EXCAVATION SHALL BE 12"

LEDGE CONSTRUCTION
NOT TO SCALE



VIEW SHOWING TRENCH BOTTOM CHANGE AT ENCASEMENT

SIDE VIEW



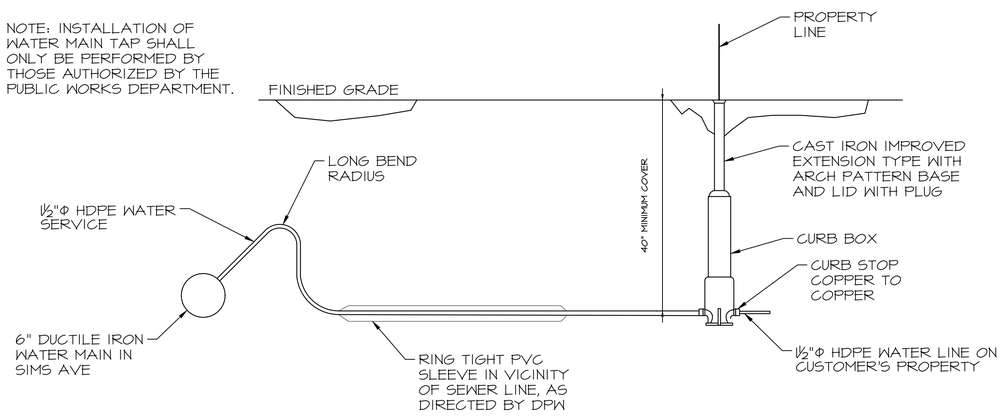
SECTION A-A
(SEE NOTE 10)

CONCRETE FULL ENCASEMENT
NOT TO SCALE

GENERAL NOTES

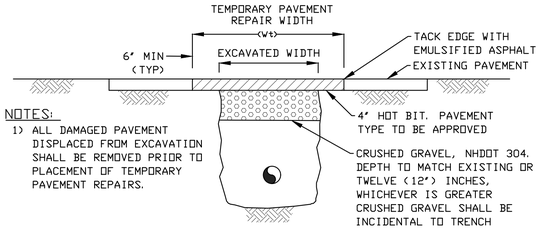
1) ORDERED EXCAVATION OF UNSUITABLE MATERIAL BELOW GRADE. REFILL WITH BEDDING MATERIAL. FOR TRENCH WIDTH SEE NOTE 7.
2) -PIPE TRENCH BEDDING MATERIAL AND FILL MATERIAL FOR ORDERED EXCAVATION BELOW GRADE SHALL BE SCREENED GRAVEL OR CRUSHED STONE TO ASTM C33 STONE SIZE NO. 67.
   -COMPACTION SHALL BE 12 INCH LAYERS FOR BEDDING AND BLANKET MATERIALS.
   -BACKFILL MATERIAL SHALL BE COMPACTED IN 3 FEET LAYERS TO THE GROUND SURFACE EXCEPT FOR ROAD CONSTRUCTION WHERE THE FINAL 3 FEET SHALL BE COMPACTED IN 12 INCH LAYERS TO THE ROAD BASE SURFACE.
3) SAND BLANKET: CLEAN SAND FREE FROM ORGANIC MATTER SO GRADED THAT 100% PASSES A 1/2 INCH SIEVE AND NOT MORE THAT 15% WILL PASS A #200 SIEVE. PIPE SAND BLANKET MATERIAL SHALL COVER THE PIPE A MINIMUM OF 12 INCHES ABOVE THE CROWN OF THE OUTSIDE SURFACE.
4) SUITABLE MATERIAL: IN ROADS, ROAD SHOULDERS, WALK-WAYS AND TRAVELED WAYS, SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE NATURAL MATERIAL EXCAVATED DURING THE COURSE OF CONSTRUCTION, BUT SHALL EXCLUDE DEBRIS, PIECES OF PAVEMENT, ORGANIC MATTER, TOP SOIL, ALL WET OR SOFT MUCK, PEAT OR CLAY, ALL EXCAVATED LEDGE MATERIAL, AND ALL ROCKS OVER SIX INCHES IN LARGEST DIMENSION, OR ANY MATERIAL WHICH, AS DETERMINED BY THE ENGINEER, WILL NOT PROVIDE SUFFICIENT SUPPORT OR MAINTAIN THE COMPLETED CONSTRUCTION IN A STABLE CONDITION.
   IN CROSS-COUNTRY CONSTRUCTION, SUITABLE MATERIAL SHALL BE AS DESCRIBED ABOVE, EXCEPT THAT THE USE OF TOP SOIL, LOAM, MUCK OR PEAT, MAY BE USED PROVIDED THAT THE COMPLETED CONSTRUCTION WILL BE ENTIRELY STABLE AND PROVIDED THAT EASY ACCESS TO THE SEWER FOR MAINTENANCE AND POSSIBLY RECONSTRUCTION, WHEN NECESSARY WILL BE PRESERVED.
5) BASE COURSE, FOR TRENCH REPAIR, SHALL MEET THE REQUIREMENTS OF DIVISION 300 OF THE LATEST EDITION OF THE:
   STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION OF THE STATE OF NEW HAMPSHIRE, DEPARTMENT OF TRANSPORTATION.
6) WOOD SHEETING, IF REQUIRED. WHERE SHEETING IS PLACED ALONGSIDE THE PIPE AND EXTENDS BELOW MID-DIAMETER, IT SHALL BE CUT OFF AND LEFT IN PLACE TO AN ELEVATION NOT LESS THAN 1 FOOT ABOVE THE TOP OF THE PIPE. WHERE SHEETING IS ORDERED BY THE ENGINEER TO BE LEFT IN PLACE, IT SHALL BE CUT OFF AT LEAST 3 FEET BELOW FINISHED GRADE, BUT NOT LESS THAN 1 FOOT ABOVE THE TOP OF THE PIPE.
7) W= MAXIMUM ALLOWABLE TRENCH WIDTH TO A PLANE 12 INCHES ABOVE THE PIPE. FOR PIPES 15 INCHES NOMINAL DIAMETER OR LESS, W SHALL BE NO MORE THAN 36 INCHES, FOR PIPES GREATER THAN 15 INCHES NOMINAL DIAMETER, W SHALL BE 24 INCHES PLUS PIPE O.D. PIPE BEDDING MATERIAL SHALL EXTEND FROM A HORIZONTAL PLANE THROUGH THE PIPE AXIS TO 6 INCH BELOW THE BOTTOM OF THE PIPE OUTSIDE SURFACE.
8) FOR CROSS COUNTRY CONSTRUCTION, BACKFILL OR FILL SHALL BE MOUNDED TO A HEIGHT OF 6 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
9) CONCRETE FOR ENCASEMENT SHALL CONFORM TO THE REQUIREMENTS FOR CLASS A (3000 LB) CONCRETE OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS AS FOLLOWS:
    CEMENT: 6.0 BAGS PER CUBIC YARD
    WATER: 5.75 GALLONS PER BAG CEMENT
    MAXIMUM SIZE OF AGGREGATE: 1 INCH
10) IF FULL ENCASEMENT IS UTILIZED, DEPTH OF CONCRETE BELOW PIPE SHALL BE 1/4 I.D. (4" MIN.) BLOCK SUPPORT SHALL BE SOLID CONCRETE BLOCKS.
11) TRENCHES FOR SEWER PIPES WITH SLOPES OVER .08 FEET PER FOOT SHALL HAVE TRENCH DAMS TO LOWER POSSIBLE GROUNDWATER FLOW VELOCITY AND POTENTIAL DISTRUBANCE TO PIPE ZONE MATERIALS.
12) PRECAUTION SHALL BE TAKEN TO AVOID GROUNDWATER POOLING AT THE SURFACE BY DRAINAGE TO SUITABLE OUTLET AT CATCH BASINS OR RUN-OFF SWALES.

NOTE: INSTALLATION OF WATER MAIN TAP SHALL ONLY BE PERFORMED BY THOSE AUTHORIZED BY THE PUBLIC WORKS DEPARTMENT.



WATER SERVICE CONNECTION

Scale: NTS



NOTES:
1) ALL DAMAGED PAVEMENT DISPLACED FROM EXCAVATION SHALL BE REMOVED PRIOR TO PLACEMENT OF TEMPORARY PAVEMENT REPAIRS.

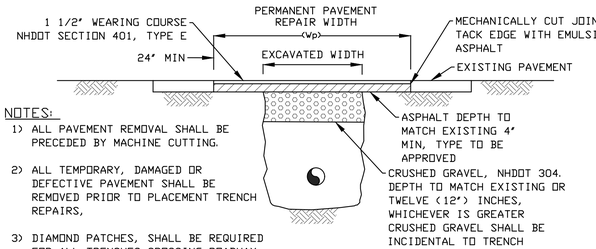
NOTE:
THE DIMENSIONS SHOWN SHALL BE CONSIDERED MINIMUM PAVEMENT PAYMENT WIDTHS FOR 0-10' DEEP CONSTRUCTION. Wt AND Wp SHALL BE INCREASED BY 4'-0" FOR TRENCHES 10' TO 15' AND BY 8'-0" FOR TRENCHES 15' TO 20' IN DEPTH.

MINIMUM TRENCH PAVEMENT WIDTHS

PIPE I. D.	Wt (INCHES).	Wp (INCHES)
1-21 INCHES	72	108
24-30 INCHES	84	120
> 30 INCHES	96	132

TEMPORARY TRENCH PAVEMENT REPAIR

Scale : N.T.S.



NOTES:
1) ALL PAVEMENT REMOVAL SHALL BE PRECEDED BY MACHINE CUTTING.
2) ALL TEMPORARY, DAMAGED OR DEFECTIVE PAVEMENT SHALL BE REMOVED PRIOR TO PLACEMENT TRENCH REPAIRS,
3) DIAMOND PATCHES, SHALL BE REQUIRED FOR ALL TRENCHES CROSSING ROADWAY. DIAMOND PATCHES SHALL MEET NHDOT REQUIREMENTS.

PERMANENT TRENCH PAVEMENT REPAIR

Scale : N.T.S.

ISS.	DATE	DESCRIPTION OF ISSUE
2	5/25/2022	FOR PB
1	1/17/2022	PRELIMINARY

SCALE
CHECKED A.ROSS
DRAWN D.D.D.
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TITLE
UTILITY NOTES
11 FLETCHER ST
PORTSMOUTH, NH 03801
TAX MAP 233, LOT 76-1

JOB NUMBER	DWG. NO.	ISSUE
21-176	7 OF 8	2

EROSION AND SEDIMENTATION CONTROL CONSTRICTION PHASING AND SEQUENCING

1. SEE "EROSION AND SEDIMENTATION CONTROL GENERAL NOTES" WHICH ARE TO BE AN INTEGRAL PART OF THIS PROCESS.
2. INSTALL SILTSOXX FENCING AS PER DETAILS AND AT SEDIMENT MIGRATION.
3. CONSTRUCT TREATMENT SWALES , LEVEL SPREADERS AND DETENTION STRUCTURES AS DEPICTED ON DRAWINGS.
4. STRIP AND STOCKPILE TOPSOIL. STABILIZE PILES OF SOIL CONSTRUCTION MATERIAL & COVER WHERE PRACTICABLE.
5. MINIMIZE DUST THROUGH APPROPRIATE APPLICATION OF WATER OR OTHER DUST SUPPRESSION TECHNIQUES ON SITE.
6. ROUGH GRADE SITE. INSTALL CULVERTS AND ROAD DITCHES.
7. FINISH GRADE AND COMPACT SITE.
8. RE-SPREAD AND ADD TOPSOIL TO ALL ROADSIDE SLOPES. TOTAL TOPSOIL THICKNESS TO BE A MINIMUM OF FOUR TO SIX INCHES.
9. STABILIZE ALL AREAS OF BARE SOIL WITH MULCH AND SEEDING.
10. RE-SEED PER EROSION AND SEDIMENTATION CONTROL GENERAL NOTES.
11. SILT SOXX FENCING TO REMAIN AND BE MAINTAINED FOR TWENTY FOUR MONTHS AFTER CONSTRUCTION TO ENSURE ESTABLISHMENT OF ADEQUATE SOIL STABILIZATION AND VEGETATIVE COVER. ALL SILT SOXX FENCING ARE THEN TO BE REMOVED FROM THE SITE AND PROPERLY DISPOSED OF.
12. PERIMETER CONTROLS SHALL BE INSTALLED PRIOR TO EARTH MOVING OPERATIONS.
13. ALL TEMPORARY WATER DIVERSION (SWALES, BASINS, ETC. MUST BE USED AS NECESSARY UNTIL AREAS ARE STABILIZED.
14. PONDS AND SWALES SHALL BE INSTALLED EARLY ON IN THE CONSTRUCTION SEQUENCE - BEFORE ROUGH GRADING THE SITE.
15. ALL DITCHES AND SWALES SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM
16. ALL ROADWAYS AND PARKING LOTS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
17. ALL CUT AND FILL SLOPES SHALL BE SEEDED/LOAMED WITHIN 72 HOURS OF ACHIEVING FINISH GRADE.
18. ALL EROSION CONTROLS SHALL BE INSPECTED WEEKLY AND AFTER EVERY HALF-INCH OF RAINFALL.
19. THE SMALLEST PRACTICAL AREA SHALL BE DISTURBED DURING CONSTRUCTION, BUT IN NO CASE SHALL EXCEED 5 ACRES AT ANY ONE TIME BEFORE DISTURBED AREAS ARE STABILIZED.
20. LOT DISTURBANCE, OTHER THAN THAT SHOWN ON THE APPROVED PLANS, SHALL NOT COMMENCE UNTIL AFTER THE ROADWAY HAS THE BASE COURSE TO DESIGN ELEVATION AND THE ASSOCIATED DRAINAGE IS COMPLETE AND STABLE.

PLANTING NOTES:

1. ALL PLANT MATERIALS SHALL BE FIRST QUALITY NURSERY GROWN STOCK.
2. ALL PLANTS SHALL BE PLANTED IN ACCORDANCE WITH NEW HAMPSHIRE LANDSCAPE ASSOCIATION STANDARDS AND GUARANTEED FOR ONE YEAR BY THE LANDSCAPE CONTRACTOR.
3. ALL TREES AND SHRUBS SHALL HAVE WATER SAUCERS BUILT AROUND THEIR BASES AND THESE SHALL BE MULCHED WITH 4" OF DARK BROWN AGED BARK MULCH. MULCH MUST BE KEPT 2" AWAY FROM THEIR TRUNKS.
4. ALL TREES AND SHRUBS SHALL BE PLANTED AND MULCHED BEFORE LAWN IS SEEDED.

MAINTENANCE REQUIREMENTS:

1. ALL TREES, SHRUBS, AND PERENNIALS WILL NEED TO BE WATERED THROUGH THANKSGIVING DURING THE FIRST SEASON IN WHICH THEY ARE INSTALLED.
2. AN UNDERGROUND DRIP IRRIGATION SYSTEM IS RECOMMENDED. IF AN UNDERGROUND DRIP IRRIGATION SYSTEM IS NOT INSTALLED, SOAKER HOSES WOUND THROUGHOUT PLANTING BEDS ARE ACCEPTABLE. ALTHOUGH OVERHEAD SPRINKLERS ARE RECOMMENDED FOR LAWN AREAS, THEY ARE NOT ACCEPTABLE FOR IRRIGATING TREES AND SHRUBS.

SEEDING AND STABILIZATION FOR LOAMED SITE:

FOR TEMPORARY & LONG TERM SEEDINGS USE AGWAY'S SOIL CONSERVATION GRASS SEED OR EQUAL
COMPONENTS: ANNUAL RYE GRASS, PERENNIAL RYE GRASS, WHITE CLOVER, 2 FESCUES, SEED AT A RATE OF 100 POUNDS PER ACRE,
FERTILIZER & LIME:
NITROGEN (N) 50 LBS/ACRE, PHOSPHATE (P205) 100 LBS/ACRE, POTASH (K20) 100 LBS/ACRE, LIME 2000 LBS/ACRE
MULCH:
HAY OR STRAW 1.5-2 TONS/ACRE

A) GRADING AND SHAPING
1) SLOPES SHALL NOT BE STEEPER THAN 2:1; 3:1 SLOPES OR FLATTER ARE PREFERRED, WHERE MOWING WILL BE DONE, 3:1 SLOPES OR FLATTER ARE RECOMMENDED.

B) SEED BED PREPARATION
1) SURFACE AND SEEPAGE WATER SHOULD BE DRAINED OR DIVERTED FROM THE SITE TO PREVENT DROWNING OR WINTER KILLING OF THE PLANTS.
2) STONES LARGER THAN 4 INCHES AND TRASH SHOULD BE REMOVED BECAUSE THEY INTERFERE WITH SEEDING AND FUTURE MAINTENANCE OF THE AREA. WHERE FEASIBLE, THE SOIL SHOULD BE TILLED TO A DEPTH OF ABOUT 4 INCHES TO PREPARE A SEEDBED AND MIX FERTILIZER AND LIME INTO THE SOIL. THE SEEDBED SHOULD BE LEFT IN A REASONABLY FIRM AND SMOOTH CONDITION. THE LAST TILLAGE OPERATION SHOULD BE PERFORMED ACROSS THE SLOPE WHEREVER PRACTICAL.

EROSION AND SEDIMENTATION CONTROL GENERAL NOTES

1. CONDUCT ALL CONSTRUCTION IN A MANNER AND SEQUENCE THAT CAUSES THE LEAST PRACTICAL DISTURBANCE OF THE PHYSICAL ENVIRONMENT, BUT IN NO CASE SHALL EXCEED 2 ACRES AT ANY ONE TIME BEFORE DISTURBED AREAS ARE STABILIZED.
2. ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.
3. ALL DITCHES, SWALES AND PONDS MUST BE STABILIZED PRIOR TO DIRECTING FLOW TO THEM.
4. ALL GROUND AREAS OPENED UP FOR CONSTRUCTION WILL BE STABILIZED WITHIN 24 HOURS OF EARTH-DISTURBING ACTIVITIES BEING CEASED, AND WILL BE FULLY STABILIZED NO LONGER THAN 14 DAYS AFTER INITIATION. (SEE NOTE II FOR DEFINITION OF STABLE). ALL SOILS FINISH GRADED MUST BE STABILIZED WITHIN SEVENTY TWO HOURS OF DISTURBANCE. ALL TEMPORARY OR LONG TERM SEEDING MUST BE APPLIED TO COMPLY WITH "WINTER CONSTRUCTION NOTES" (SEE WINTER CONSTRUCTION NOTES). EMPLOY TEMPORARY EROSION AND SEDIMENTATION CONTROL DEVICES AS DETAILED ON THIS PLAN AS NECESSARY UNTIL ADEQUATE STABILIZATION HAS BEEN ASSURED (SEE NOTE II FOR DEFINITION OF STABLE).
5. TEMPORARY & LONG TERM SEEDING: USE SEED MIXTURES, FERTILIZER, LIME AND MULCHING AS RECOMMENDED (SEE SEEDING AND STABILIZATION NOTES).
6. SILTSOXX FENCING TO BE SECURELY EMBEDDED AND STAKED AS DETAILED. WHEREVER POSSIBLE A VEGETATED STRIP OF AT LEAST TWENTY FIVE FEET IS TO BE KEPT BETWEEN SILTSOXX AND ANY EDGE OF WET AREA.
7. SEEDED AREAS WILL BE FERTILIZED AND RE-SEEDED AS NECESSARY TO ENSURE VEGETATIVE ESTABLISHMENT.
8. SEDIMENT BASIN(S), IF REQUIRED, TO BE CHECKED AFTER EACH SIGNIFICANT RAINFALL AND CLEANED AS NEEDED TO RETAIN DESIGN CAPACITY.
9. SILTSOXX FENCING WILL BE CHECKED REGULARLY AND AFTER EACH SIGNIFICANT RAINFALL. NECESSARY REPAIRS WILL BE MADE TO CORRECT UNDERMINING OR DETERIORATION OF THE BARRIER AS WELL AS CLEANING, REMOVAL AND PROPER DISPOSAL OF TRAPPED SEDIMENT.
10. TREATMENT SWALES WILL BE CHECKED WEEKLY AND REPAIRED WHEN NECESSARY UNTIL ADEQUATE VEGETATIVE COVER HAS BEEN ESTABLISHED.
11. AN AREA SHALL BE CONSIDERED FULLY STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
- BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED
- A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED
- A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIP RAP HAS BEEN INSTALLED.
- EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.

11. ALL EROSION AND SEDIMENTATION CONTROL MEASURES IN THE PLAN SHALL MEET THE DESIGN BASED ON STANDARDS AND SPECIFICATIONS SET FORTH IN THE STORM WATER MANAGEMENT AND EROSION AND SEDIMENTATION CONTROL HANDBOOK FOR URBAN AND DEVELOPING AREAS IN NEW HAMPSHIRE (DECEMBER 2008 OR LATEST) PREPARED BY ROCKINGHAM COUNTY CONSERVATION DISTRICT, N.H. DES AND NRCS.

WINTER CONSTRUCTION NOTES

1. ALL PROPOSED VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE INSTALLATION OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPETED IN ADVANCE OF THAW OR SPRING MELT EVENT.;
2. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS;
3. AFTER OCTOBER 15TH, INCOMPLETE ROAD OR PARKING SURFACES, WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL PER NHDOT ITEM 304.3.

LONG TERM SEEDING

*WELL TO MODERATELY WELL DRAINED SOILS

FOR CUT AND FILL AREA AND FOR WATERWAYS AND CHANNELS

SEEDING MIXTURE C

	lb/ACRE	lb/1000SF
TALL FESCUE	20	0.45
CREEPING RED FESCUE	20	0.45
RED CLOVER (ALSIKE)	20	0.45
TOTAL	48	1.35

LIME: AT 2 TONS PER ACRE OR 100 LBS PER 1,000 S.F.
FERTILIZER: 10 20 20 (NITROGEN, PHOSPHATE, POTASH AT 500# PER ACRE.
MULCH: HAY OR CLEAN STRAW; 2 TONS/ACRE OR 2 BALES/1000 S.F.

GRADING AND SHAPING:
SLOPES SHALL NOT BE STEEPER THAN 2 TO 1. 3 TO 1 OR FLATTER SLOPES ARE PREFERRED.
SEEDBED PREPARATION:
SURFACE AND SEEPAGE WATER SHOULD BE DRAINED OR DIVERTED FROM THE SITE TO PREVENT DROWNING OR WINTER KILLING OF THE PLANTS.
STONES LARGER THAN FOUR INCHES AND TRASH SHOULD BE REMOVED.
SOD SHOULD BE TILLED TO A DEPTH OF FOUR INCHES TO PREPARE SEEDBED. FERTILIZER & LIME SHOULD BE MIXED INTO THE SOIL.
THE SEEDBED SHOULD BE LEFT IN A REASONABLY FIRM AND SMOOTH CONDITION. THE LAST TILLAGE OPERATION SHOULD BE PERFORMED ACROSS THE SLOPE WHEREVER PRACTICAL.

* FROM: STORMWATER MANAGEMENT AND EROSION AND SEDIMENTATION CONTROL HANDBOOK FOR URBAN AND DEVELOPING AREAS IN NEW HAMPSHIRE, DECEMBER 2008.

SHORT TERM SEEDING

*WELL TO MODERATELY WELL DRAINED SOILS

FOR CUT AND FILL AREA AND FOR WATERWAYS AND CHANNELS

SEEDING MIXTURE C

	#/ACRE	#/1000SF
FOR APRIL 1 - AUGUST 15		
ANNUAL RYE GRASS	40	1
FOR FALL SEEDING		
WINTER RYE	112	2.5

LIME: AT 1 TON PER ACRE OR 100 LBS PER 1,000 S.F.
FERTILIZER: 10 10 10 (NITROGEN, PHOSPHATE, POTASH AT 500# PER ACRE.
MULCH: HAY OR CLEAN STRAW; 2 TONS/ACRE OR 2 BALES/1000 S.F.

GRADING AND SHAPING:
SLOPES SHALL NOT BE STEEPER THAN 2 TO 1. 3 TO 1 OR FLATTER SLOPES ARE PREFERRED.
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* FROM: STORMWATER MANAGEMENT AND EROSION AND SEDIMENTATION CONTROL HANDBOOK FOR URBAN AND DEVELOPING AREAS IN NEW HAMPSHIRE, DECEMBER 2008.

WHEN PROPOSED FOR ALTERATION DURING CONSTRUCTION AS BEING INFESTED WITH INVASIVE SPECIES SHALL BE MANAGED APPROPRIATELY USING THE DISPOSAL PRACTICES IDENTIFIED IN "NHDOT - BEST MANAGEMENT PRACTICES FOR ROADSIDE INVASIVE PLANTS -2008" AND "METHODS FOR DISPOSING NON-NATIVE INVASIVE PLANTS - UNH COOPERATIVE EXTENSION - 2010"

SEED MIXES SHALL NOT CONTAIN ANY SPECIES IDENTIFIED BY THE NEW HAMPSHIRE PROHIBITED INVASIVE PLANT SPECIES LIST.

INSPECTION AND MAINTENANCE OF FACILITIES AND PROPERTY

A. MAINTENANCE OF COMMON FACILITIES OR PROPERTY

1. FUTURE OWNERS OR ASSIGNS ARE RESPONSIBLE FOR MAINTENANCE OF ALL STORMWATER INFRASTRUCTURE ASSOCIATED WITH THE FACILITY AND THE PROPERTY. THIS INCLUDES THE ROOF DRAINAGE SYSTEM, STONE INFILTRATION BEDS, GRAVEL AREAS, AND THE PERVIOUS PAVEMENT.

B. GENERAL INSPECTION AND MAINTENANCE REQUIREMENTS

1. PERMANENT STORMWATER AND SEDIMENT AND EROSION CONTROL FACILITIES TO BE MAINTAINED ON THE SITE INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING:

a. ROOF DRAINAGE SYSTEM
b. CRUSHED STONE INFILTRATION BEDS
c. DRAIN LINES
d. PERVIOUS PAVEMENT

2. MAINTENANCE OF PERMANENT MEASURES SHALL FOLLOW THE FOLLOWING SCHEDULE:

a. DRIVEWAY, PARKING LOT INSPECTION AT THE END OF EVERY WINTER, PRIOR TO THE START OF THE SPRING RAIN SEASON. SAND/DEBRIS THAT HAS COLLECTED OFF THE DRIVEWAY AND PARKING LOT SHOULD BE REMOVED OFF-SITE AND DISPOSED OF PROPERLY.

b. ANNUAL INSPECTION OF THE SITE FOR EROSION, DESTABILIZATION, SETTLING, AND SLOUGHING. ANY NEEDED REPAIRS ARE TO BE CONDUCTED IMMEDIATELY.

c. ANNUAL INSPECTION OF SITE'S VEGETATION AND LANDSCAPING. ANY AREAS THAT ARE BARE SHALL BE RESEEDED AND MULCHED WITH HAY OR, IF THE CASE IS EXTREME, LOAMED AND SEEDED OR SODDED TO ENSURE ADEQUATE VEGETATIVE COVER. LANDSCAPE SPECIMENS SHALL BE REPLACED IN-KIND, IF THEY ARE FOUND TO BE DEAD OR DYING.

d. THE FOLLOWING RECOMMENDATIONS WILL HELP ASSURE THAT THE ROOF DRAINAGE SYSTEM IS MAINTAINED TO PRESERVE ITS EFFECTIVENESS:

i. INITIALLY, PRIOR TO A CERTIFICATE OF OCCUPANCY FOR THE RESIDENTIAL UNITS, IT SHOULD BE TESTED BY INSERTING A GARDEN HOSE INTO THE INLET AND ALLOWING THE WATER TO RUN AT FULL STRENGTH FOR A MINIMUM OF ONE HOUR. THE WATER SHOULD STAY UNDERGROUND WITHIN THE GRAVEL. IF WATER COMES OUT OF THE OVERFLOW, THE SYSTEM SHOULD BE FURTHER INSPECTED AND POSSIBLY REPLACED. THIS PROCEDURE SHOULD BE PERFORMED EVERY YEAR DURING THE ANNUAL INSPECTION.

ii. IN THE SPRING AND FALL, VISUALLY INSPECT THE AREA AROUND THE SYSTEM AND REPAIR ANY EROSION. USE SMALL STONES TO STABILIZE EROSION ALONG DRAINAGE PATHS. RE-MULCH ANY VOID AREAS BY HAND AS NEEDED. ALSO, INSPECT THE ROOF COLLECTION AND PIPING AND CLEAN AND REPAIR AS NECESSARY.

iii. DO NOT PLANT DEEP ROOTED TREES AND SHRUBS WITHIN 5' OF THE SYSTEM.

iv. KEEP HEAVY VEHICLES FROM DRIVING OR PARKING OVER THE SYSTEM.

e. THE FOLLOWING REQUIREMENTS WILL HELP ASSURE THAT THE PERVIOUS PAVEMENT SYSTEM IS MAINTAINED TO PRESERVE ITS EFFECTIVENESS:

i. INSPECTION OF SITE SHALL OCCUR MONTHLY FOR THE FIRST FEW MONTHS AFTER CONSTRUCTION. THEN INSPECTIONS CAN OCCUR ON AN ANNUAL BASIS, PREFERABLY AFTER RAIN EVENTS WHEN CLOGGING CAN OCCUR AND BE OBVIOUS. PERMEABLE PAVEMENT REQUIRES MINIMAL MAINTENANCE; HOWEVER MAINTENANCE IS ABSOLUTELY NECESSARY TO ENSURE A PROPER WORKING SYSTEM.

ii. ASPHALT SEAL COATING IS ABSOLUTELY FORBIDDEN. SURFACE SEAL COATING IS NOT REVERSIBLE.

iii. STREET SWEEPERS WITH VACUUMS, WATER, AND BRUSHES CAN BE USED TO RESTORE PERMEABILITY. FOLLOW SWEEPING WITH HIGH-PRESSURE HOSING OF THE SURFACE PORES. SURFACE SHOULD BE VACUUMED 4 TIMES PER YEAR, AND AT ANY ADDITIONAL TIMES SEDIMENT IS SPILLED, ERODED, OR TRACKED ONTO THE SURFACE.

iv. PLANTED AREAS ADJACENT TO PERVIOUS PAVEMENT SHOULD BE WELL MAINTAINED TO PREVENT SOIL WASHOUT ONTO THE PAVEMENT. IF ANY BARE SPOTS OR ERODED AREAS ARE OBSERVED WITHIN THE PLANTED AREAS, THEY SHOULD BE REPLANTED AND/OR STABILIZED AT ONCE.

v. IMMEDIATELY CLEAN ANY SOIL DEPOSITED ON PAVEMENT. SUPERFICIAL DIRT DOES NOT NECESSARILY CLOG THE VOIDS. HOWEVER, DIRT THAT IS GROUND IN REPEATEDLY BY TIRES CAN LEAD TO CLOGGING. THEREFORE, TRUCKS OR OTHER HEAVY VEHICLES SHOULD BE PREVENTED FROM TRACKING OR SPILLING DIRT ONTO THE PAVEMENT.

vi. DO NOT ALLOW CONSTRUCTION STAGING, SOIL/MULCH STORAGE, ETC. ON UNPROTECTED PAVEMENT SURFACE.

vii. NO WINTER SANDING. MECHANICAL SNOW AND ICE REMOVAL PREFERRED.

viii. DEICING IS PERMITTED ON PERVIOUS PAVEMENT IN THE WINTER. MINIMIZE APPLICATION OF SALT BY REDUCING THE APPLICATION BY 50% OVER TRADITIONAL PAVEMENT.

viii. WRITTEN AND VERBAL COMMUNICATION TO THE POROUS PAVEMENT'S FUTURE OWNER SHOULD MAKE CLEAR THE SPECIAL PURPOSE AND SPECIAL MAINTENANCE REQUIREMENTS SUCH AS THOSE LISTED HERE.

f. THE FOLLOWING REQUIREMENTS WILL HELP ASSURE THAT THE STONE INFILTRATION
SYSTEM IS MAINTAINED TO PRESERVE ITS EFFECTIVENESS:

i. INSPECTED AT LEAST TWICE ANNUALLY AND FOLLOWING ANY RAINFALL EVENT EXCEEDING 2.5 INCHES IN A 24 HOUR PERIOD.

ii. IF SYSTEM DOES NOT DRAIN WITHIN 72 HOURS FOLLOWING A RAINFALL EVENT, THEN A QUALIFIED PROFESSIONAL ENGINEER SHOULD ASSESS THE CONDITION OF THE STONE TRENCH TO DETERMINE MEASURES REQUIRED TO RESTORE INFILTRATION FUNCTION. INCLUDING, BUT NOT LIMITED TO, REMOVAL OF ACCUMULATED SEDIMENTS OR RECONSTRUCTION OF THE INFILTRATION TRENCH.

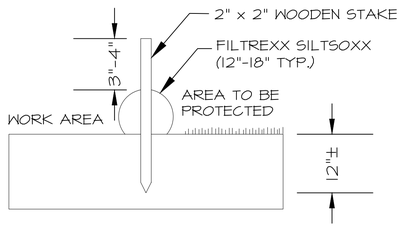
g. OWNERS SHALL PROVIDE A REPORT ON ACTIVITIES PERFORMED THROUGHOUT THE YEAR. REPORT SHALL INCLUDE DOCUMENTATION THAT PAVEMENT CLEANING IS ACCOMPLISHED PER THIS DOCUMENT AND A CERTIFICATION THAT THE SYSTEM CONTINUES TO FUNCTION AS DESIGNED.

ACTIVITY	DATE OF INSPECTION	WHO INSPECTED	SATISFACTORY; YES, NO, N/A	MAINTENANCE NEEDED	IMPLEMENTED DATE OF CORRECTIVE ACTION	FINDINGS OF INSPECTOR
PARKING LOT SWEEPING						
PARKING LOT SWEEPING PERVIOUS PAVEMENT						
ROOF DRAINAGE SYSTEM						
STONE INFILTRATION						
RAIN GARDEN						
CULVERTS						

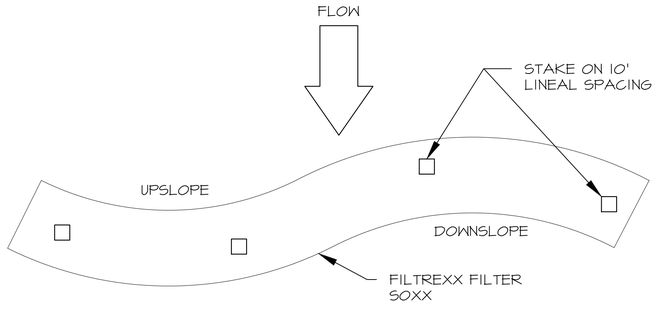
FILTREXX SILTSOXX NOTES

1) ALL MAERTIAL TO MEET FILTREXX SPECIFICATIONS

2) SILTSOXX COMPOST, SOIL, ROCK, SEED FILL TO MEET APPLICATION REQUIREMENTS



Filtrexx SiltSoxx Section
N.T.S.



Filtrexx SiltSoxx Plan View
N.T.S.

ISS.	DATE	DESCRIPTION OF ISSUE
2	5/25/2022	FOR PB
1	1/17/2022	PRELIMINARY

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JOB NUMBER	DWG. NO.	ISSUE
21-176	8 OF 8	2